

Form C-141

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State of New Mexico
Oil Conservation Division

Incident ID	NDHR1921034782
District RP	1RP-5617
Facility ID	fDHR1921033990
Application ID	pDHR1921033352

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

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I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name: Amber Groves Title: Remediation Coordinator
Signature: Amber Groves Date: 8/29/2019
email: agroves@paalp.com Telephone: 575-200-5577

OCD Only

Received by: _____ Date: _____



August 29, 2019

Dylan Rose-Coss
Environmental Scientist
Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

**Re: Site Assessment Summary and Proposed Remediation Plan
Hobbs to Wasson 6"**
GPS: Latitude 32.65835, Longitude -103.13831
UL "K", Sec. 15, T19S, R38E
Lea County, NM
NMOCD Ref. No. 1RP-5617

Tasman Geosciences, LLC (Tasman), on behalf of Plains Pipeline, LP (Plains), has prepared this Site Delineation Summary and Proposed Remediation Workplan for the Release Site known as the Hobbs to Wasson 6". Details of the Release are summarized below:

RELEASE DETAILS			
Type of Release: Crude Oil	Volume of Release:		10 bbls
	Volume Recovered:		0 bbls
Source of Release: Pipeline	Date of Release:	7/3/19	Date of Discovery: 7/3/19
Was Immediate Notice Given? No	If YES, to Whom?		
Was a Watercourse Reached? No	If YES, Volume Impacting the Watercourse:	N/A	
Surface Owner: Private	Mineral Owner: Private		
Describe Cause of Release and Remedial Action Taken:			
During purging activities a crude oil release occurred from a previously unknown, open end section of pipe. Plains personnel dispatched a crew to conduct emergency response activities. The release occurred on private property affecting the pasture and a caliche pit.			

Site Characteristics Map is Attachments #1. General Site Photographs are provided as Attachment #6. A Copy of the Initial Release Notification and Corrective Action (NMOCD Form C-141) is provided as Attachment #7.

REGULATORY FRAMEWORK

Surface impacts from unauthorized releases of crude oil, gases, produced water, condensate or other oil field waste which occur during normal oilfield operations are generally regulated by the New Mexico Oil Conservation Division (NMOCD) in accordance with 19.15.29 of the New Mexico Administrative Code (NMAC). 19.15.29 NMAC establishes reporting, site assessment/characterization, remediation, closure, variance and enforcement procedures. Table I of 19.15.29.12 NMAC determines the closure criteria for soils impacted by a release based on the depth to groundwater and the following site characteristics:

Site Characteristics		
Approximate Depth to Groundwater		<50 ft
Within 300 ft. of any continuously flowing or significant watercourse?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 200 ft. of any lakebed, sinkhole, or playa lake?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 300 ft. of an occupied permanent residence, school, hospital, or institution?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Within 500 ft. of a spring or private, domestic fresh water well?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Within 1,000 ft. of any fresh water well?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Within the incorporated municipal boundaries or within a municipal well field?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within 300 ft. of a wetland?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within an unstable area?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Within a 100-year floodplain?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No

A search of a groundwater database maintained by The New Mexico Office of the State Engineer (NMOSE) was conducted to determine the average depth to groundwater within a one (1) Mile radius of the Release Site and identify any registered water wells within a 1/2 Mile of the Release Site. Depth to groundwater information is provided as Attachment #4.

Based on the approximate depth to groundwater and site characteristics, the NMOCD Closure Criteria are as follows:

Table I Closure Criteria for Soils Impacted by a Release			
Minimum depth below any point within the horizontal boundary of the release to ground water less than 10,000 mg/l TDS	Constituent	Method*	Limit**
≤ 50 feet	Chloride***	EPA 300.0 or SM 4500 Cl B	600 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	100 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

SITE DELINEATION SUMMARY

On July 11, 2019, Tasman personnel conducted delineation activities at the Release Site. Four (4) trenches were installed at the site in an effort to determine the vertical extent of soil impact. Soil samples were collected at one (1) ft. intervals and field tested for chloride concentrations. Soil samples collected from each trench were submitted to Cardinal Laboratories in Hobbs, New Mexico. The soil samples were submitted for BTEX, TPH and chloride analysis. Laboratory analytical results indicated chloride concentrations were below the NMOCD Closure Criteria in each of the submitted soil samples with the exception of soil samples V-2 @ 7', V-2 @ 8', V-2 @ 9', V-2 @ 10', and V-2 @ 11'. Laboratory analytical results indicated TPH concentrations ranging from 42,020 mg/kg in soil sample V-3 @ S to below the laboratory reporting limit (RL) in soil sample V-3 @ 2'. Analytical results indicated BTEX concentrations were below the NMOCD Closure Criteria in all of the submitted soil samples. A table summarizing laboratory analytical results from soil samples collected during the site delineation is provided below:

Concentrations of BTEX, TPH and/or Chloride in Soil											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					E 300
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₅ (mg/kg)	TPH C ₆ -C ₃₅ (mg/kg)	Chloride (mg/kg)
V-1 @ 5'	7/11/09	5'	In-Situ	<0.050	11.6	82.0	1,440	1,522	336	1,858	<16.0
V-1 @ 5.5'	7/11/09	5.5'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	32.0
V-2 @ S	7/11/19	Surf.	Excavated	0.063	6.54	284	29,100	29,384	7,880	37,264	208
V-2 @ 1'	7/11/19	1'	Excavated	<0.050	<0.300	<50.0	740	740	266	1,006	80.0
V-2 @ 3'	7/11/19	3'	In-Situ	<0.050	<0.300	<10.0	13	13	12	25	192
V-2 @ 4'	7/11/19	4'	In-Situ	<0.050	<0.300	<10.0	367	367	136	503	352
V-2 @ 5'	7/11/19	5'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	464
V-2 @ 7'	7/11/19	7'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	704
V-2 @ 8'	7/11/19	8'	In-Situ	-	-	-	-	-	-	-	832
V-2 @ 9'	7/11/19	9'	In-Situ	-	-	-	-	-	-	-	848
V-2 @ 10'	7/11/19	10'	In-Situ	-	-	-	-	-	-	-	608
V-2 @ 11'	7/11/19	11'	In-Situ	-	-	-	-	-	-	-	720
V-3 @ S	7/11/19	Surf.	Excavated	0.851	14.8	1,010	33,700	34,710	7,310	42,020	<16.0
V-3 @ 1'	7/11/19	1'	Excavated	0.058	<0.300	<50.0	1,780	1,780	524	2,304	16.0
V-3 @ 2'	7/11/19	2'	In-Situ	<0.050	<0.300	<10.0	41.3	41.3	10.8	52.1	16.0
V-4 @ S	7/11/19	Surf.	Excavated	<0.050	9.64	854	25,300	26,154	5,530	31,684	32.0
V-4 @ 1'	7/11/19	1'	Excavated	<0.050	<0.300	15	2,500	2,515	639	3,154	16.0
V-4 @ 2'	7/11/19	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
NMOCD Closure Criteria				10	50					100	600

A "Delineation Overview Map" is provided as Attachment #2. Field Data, if applicable, is provided as Attachment #4. Laboratory analytical reports are provided as Attachment #5.

VARIANCE REQUEST

From July 13, to July 30, 2019, Tasman personnel conducted excavation of the visually stained soil to approximately two (2) feet (ft) below ground surface (bgs). During excavation activities buried oilfield equipment and various trailer parts were discovered. A review of laboratory analytical results indicated chloride concentrations ranging from 80.0 mg/kg in soil samples V-2 @ 1' to 848 mg/kg in soil sample V-2 @ 9'. Concentrations of chloride identified in trench V-2 appear to be associated with a buried heater treater located in close proximity to trench V-2. The analytical results indicated chloride concentrations exhibited in trench V-2 are not identified in the remaining trenches. Plains maintains, chloride concentrations identified in trench V-2 are likely associated with buried heater treater and not related to the July 3, 2019 crude oil release. At this time Plains is requesting a NMOCD variance to leave the chloride concentrations located in the vicinity of Trench V-2 in-situ.

REMEDATION PLAN

Based on laboratory analytical results, site characteristics, and field observations, Plains proposes the following remediation activities designed to advance the Release Site toward an NMOCD approved closure:

- Utilizing mechanical equipment, excavate impacted soil in the area characterized by soil sample V-1 to a depth of approximately five and a half (5.5) ft. bgs., or until laboratory analytical results indicate TPH concentrations below the applicable NMOCD Closure Criteria.
- Excavated impacted soil within the release margins in the area characterized by soil sample V-2 to a depth of approximately five (5) ft. bgs, or until laboratory analytical results indicate TPH concentrations below the applicable NMOCD Closure Criteria.
- Excavated impacted soil within the release margins in the areas characterized by soil samples V-3 and V-4 to a depth of approximately two (2) ft. bgs, or until laboratory analytical results indicate TPH concentrations below the applicable NMOCD Closure Criteria.
- Excavated soil will be temporarily stockpiled on-site atop a poly liner, pending transportation under manifest to a NMOCD-approved disposal facility.
- The area will be backfilled with locally sourced, non-impacted material. The affected area will be contoured and/or compacted to match the surrounding topography.

TIMELINE AND ESTIMATED VOLUME OF SOIL TO BE REMEDIATED

Remediation activities are expected to be completed within 90 days of receiving necessary approval(s) of this *Site Delineation Summary and Proposed Remediation Plan*. Based on laboratory analytical results, site characteristics and field observations made during the initial site assessment it is estimated approximately 600 cubic yards of soil has been affected above the NMOCD Closure Criteria.

RESTORATION, RECLAMATION AND RE-VEGETATION

Areas affected by the Release and associated remediation activities will be restored to the condition which existed prior to the release to the maximum extent practicable. Excavated areas will be backfilled with locally sourced, non-impacted material placed at or near original relative positions. The affected area will be contoured and/or compacted to fit the surrounding topography. Final restoration, reclamation and re-vegetation will be conducted in accordance with 19.15.29.13 NMAC.

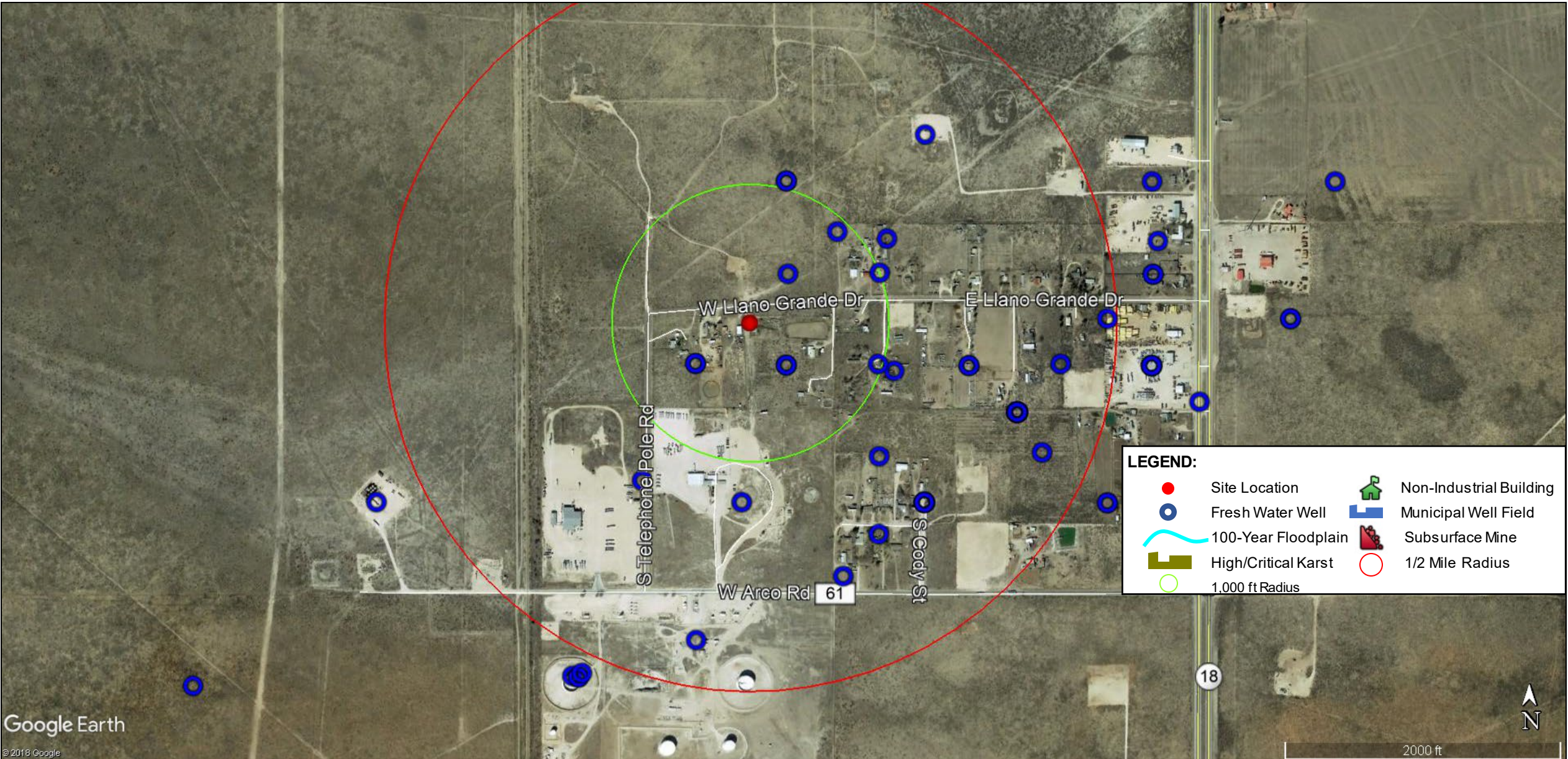
If you have any questions, or if additional information is required, please feel free to contact Amber Groves at 575-200-5517 or either of the undersigned by phone or email.

Respectfully,

Zachary Conder
Tasman Geosciences

Brian Cooper
Tasman Geosciences

Attachments:	Attachment #1-	Figure 1 - Topographical Map
	Attachment #2-	Figure 2 - Aerial Map
	Attachment #3-	Depth to Groundwater Information
	Attachment #4	Field Data
	Attachment #5-	Laboratory Analytical Reports
	Attachment #6-	General Site Photographs
	Attachment #7-	Release Notification and Corrective Action (FORM C-141)



DATE: July 2019

DESIGNED BY: ZC

DRAWN BY: BD

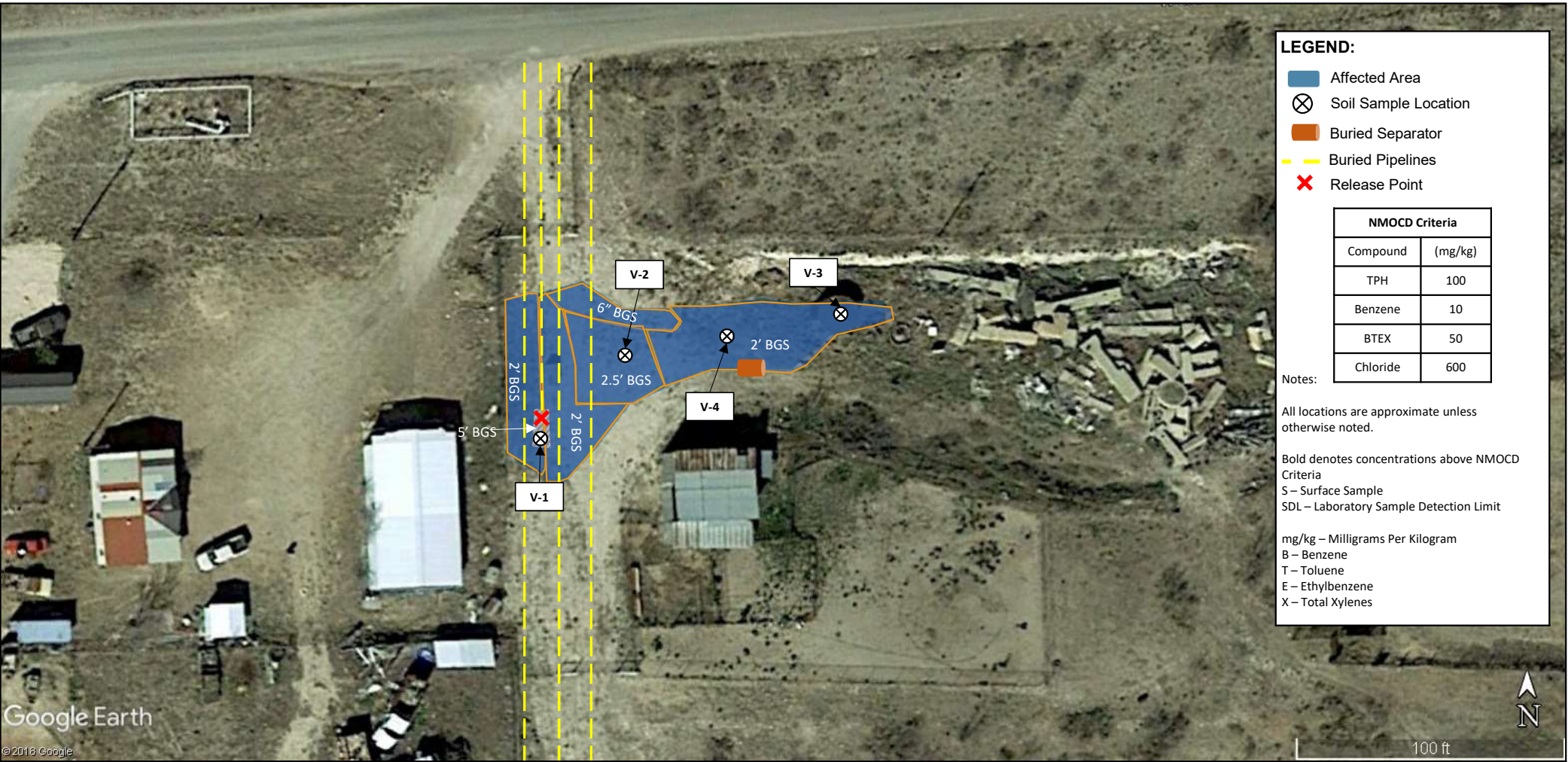



Tasman Geosciences, Inc.
2620 W. Marland Blvd.
Hobbs, NM 88240

Plains Pipeline, LP
Hobbs to Wasson 6 in.
GPS: 32.658350, -103.138310
UL "K", Section 15, Township 19 South, Range 38 East
Lea County, New Mexico

Site Characteristics
Map

**Figure
1**



DATE: July 2019	 TASMAN GEOSCIENCES	<i>Tasman Geosciences, Inc.</i> 2620 W. Marland Blvd. Hobbs, NM 88240	Plains Pipeline, LP Hobbs to Wasson 6 in. GPS: 32.658350, -103.138310 UL "K", Section 15, Township 19 South, Range 38 East Lea County, New Mexico	Delineation Sample Overview	Figure 2
DESIGNED BY: BD					
DRAWN BY: ZC					

Hobbs to Wasson 6 in. Concentrations of Benzene, BTEX, and/or TPH in Soil											
Sample ID	Date	Depth	Soil Status	SW 846 8021B		SW 846 8015M Ext.					SM 4500
				Benzene (mg/kg)	BTEX (mg/kg)	GRO C ₆ -C ₁₀ (mg/kg)	DRO C ₁₀ -C ₂₈ (mg/kg)	GRO + DRO C ₆ -C ₂₈ (mg/kg)	ORO C ₂₈ -C ₃₅ (mg/kg)	TPH C ₆ -C ₃₅ (mg/kg)	Chloride (mg/kg)
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V-2 @ 10'	7/11/2019	10'	In-Situ	-	-	-	-	-	-	-	608
V-2 @ 11'	7/11/2019	11'	In-Situ	-	-	-	-	-	-	-	720
V-3 @ S	7/11/2019	Surf.	Excavated	0.851	14.8	1,010	33,700	34,710	7,310	42,020	<16.0
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V-4 @ 2'	7/11/2019	2'	In-Situ	<0.050	<0.300	<10.0	<10.0	<10.0	<10.0	<10.0	16.0
Closure Criteria				10	50	-	-	-	-	100	600

Bold values denote concentrations above NMOCD Criteria



New Mexico Office of the State Engineer

Water Column/Average Depth to Water

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)

(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD Sub-Code	basin	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Distance	Depth Well	Depth Water	Water Column
L 03198	L	LE		4	2	3	15	19S	38E	674674	3614851*	124	100	15	85
L 09486	L	LE		4	2	3	15	19S	38E	674674	3614851*	124	132	74	58
L 06922	L	LE		2	2	3	15	19S	38E	674674	3615051*	135	100	50	50
L 05725	L	LE		3	2	3	15	19S	38E	674474	3614851*	149	98	45	53
L 05725 POD2	L	LE		3	2	3	15	19S	38E	674474	3614851*	149	120	58	62
L 06759	L	LE					15	19S	38E	674781	3615145*	276	100	45	55
L 04489	L	LE		3	1	4	15	19S	38E	674876	3614857*	297	100	41	59
L 07882	L	LE		1	1	4	15	19S	38E	674876	3615057*	306	100	32	68
L 03575	L	LE		4	4	1	15	19S	38E	674667	3615254*	319	110	51	59
L 06792	L	LE		4	4	1	15	19S	38E	674667	3615254*	319	100	51	49
L 14267 POD1	L	LE		3	1	4	15	19S	38E	674912	3614842	335	138	65	73
L 12601 POD1	L	LE		1	1	4	15	19S	38E	674891	3615131	353	140		
L 08279	L	LE		4	3		15	19S	38E	674581	3614549*	394	130	58	72
L 03248 POD4	L	LE		1	3	4	15	19S	38E	674882	3614655*	409	135	60	75
L 12154 POD1	L	LE		2	3	3	15	19S	38E	674361	3614592	420	160		
L 09018	L	LE		4	1	4	15	19S	38E	675076	3614857*	492	100	32	68
L 09310	L	LE		4	1	4	15	19S	38E	675076	3614857*	492	120	58	62
L 13654 POD1	L	LE		3	3	4	15	19S	38E	674884	3614484	544	144	78	66
L 03248 POD2	R	L	LE	3	4		15	19S	38E	674983	3614556*	550		42	
L 03248 POD5	L	LE		3	4		15	19S	38E	674983	3614556*	550	133	75	58
L 03248 S	R	L	LE	3	4		15	19S	38E	674983	3614556*	550	135	42	93
L 08280	L	LE		3	4		15	19S	38E	674983	3614556*	550	130	58	72
L 08280	R	L	LE	3	4		15	19S	38E	674983	3614556*	550	130	58	72
L 08363	L	LE		3	4		15	19S	38E	674983	3614556*	550	130	58	72
L 11015	L	LE		3	4		15	19S	38E	674983	3614556*	550	120	45	75
L 06858	L	LE		3	2		15	19S	38E	674971	3615361*	564	100	45	55

*UTM location was derived from PLSS - see Help

(A CLW##### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)






























(R=POD has been replaced, O=orphaned, C=the file is closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD Number	POD		Q Q Q							X	Y	Distance	Depth Well	Depth Water	Water Column
	Sub-Code	basin	County	64	16	4	Sec	Tws	Rng						
L 13653 POD1	L	LE	3	3	4	15	19S	38E	674807	3614391		593	140	75	65
L 02667	L	LE			4	15	19S	38E	675184	3614757*		621	106	70	36
L 03248 POD6	L	LE			4	15	19S	38E	675184	3614757*		621	115	57	58
L 06101	L	LE			4	15	19S	38E	675184	3614757*		621	100	38	62
L 06101 POD2	L	LE			4	15	19S	38E	675184	3614757*		621	100	38	62
L 07381	L	LE			4	15	19S	38E	675184	3614757*		621	100	50	50
L 07512	L	LE			4	15	19S	38E	675184	3614757*		621	100	32	68
L 09720	L	LE			4	15	19S	38E	675184	3614757*		621	100	65	35
L 09821	L	LE			4	15	19S	38E	675184	3614757*		621	100	51	49
L 09896	L	LE			4	15	19S	38E	675184	3614757*		621	100	38	62
L 10046	L	LE			4	15	19S	38E	675184	3614757*		621	120	70	50
L 10503	L	LE			4	15	19S	38E	675184	3614757*		621	100	70	30
L 07379	L	LE	3	2	4	15	19S	38E	675278	3614864*		691	120	44	76
L 12489 POD1	L	LE	1	4	4	15	19S	38E	675240	3614669		704	160	100	60
L 11593	L	LE	1	2	1	22	19S	38E	674486	3614245*		706	125		
L 05013	L	LE		2	4	15	19S	38E	675379	3614965*		787	100	47	53
L 13312 POD4	L	LE	2	1	1	22	19S	38E	674235	3614168		853	63	44	19
L 13312 POD2	L	LE	2	1	1	22	19S	38E	674228	3614159		864	60	45	15
L 13312 POD3	L	LE	2	1	1	22	19S	38E	674228	3614159		864	60	53	7
L 13312 POD1	L	LE	2	1	1	22	19S	38E	674215	3614161		867	60	45	15
L 07357	L	LE		4	4	15	19S	38E	675386	3614562*		881	101		
L 08352	L	LE		4	4	15	19S	38E	675386	3614562*		881	118	50	68
L 04539	L	LE	4	2	4	15	19S	38E	675478	3614864*		890	100	48	52
L 05408	L	LE	4	2	4	15	19S	38E	675478	3614864*		890	142	52	90
L 06733	L	LE	4	2	4	15	19S	38E	675478	3614864*		890	123	50	73
L 10322	L	LE	4	2	4	15	19S	38E	675478	3614864*		890	133	44	89
L 04107	L	LE	2	2	4	15	19S	38E	675478	3615064*		894	112	60	52
L 04622	L	LE	2	2	4	15	19S	38E	675478	3615064*		894	70	46	24
L 04335	L	LE		4	4	16	19S	38E	673776	3614535*		912	110	35	75

*UTM location was derived from PLSS - see Help

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right file.)


(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(In feet)

POD																	
		Sub-	Q Q Q										Depth Depth Water				
POD Number	Code	basin	County	64	16	4	Sec	Tws	Rng	X	Y	Distance	Well	Water	Column		
L 14155 POD1		L	LE	2	2	4	15	19S	38E	675487	3615136		916	150	80	70	
L 08046		L	LE	4	4	2	15	19S	38E	675472	3615267*		938	130	58	72	
L 13172 POD1		L	LE	4	2	4	15	19S	38E	675585	3614786		1005	141			
L 02089		L	LE	4	4	4	15	19S	38E	675485	3614461*		1015	83	49	34	
L 02689		L	LE	4	4	4	15	19S	38E	675485	3614461*		1015	83	49	34	
L 03248		L	LE	4	4	4	15	19S	38E	675485	3614461*		1015	123	48	75	
L 03248	R	L	LE	4	4	4	15	19S	38E	675485	3614461*		1015	123	48	75	
L 08890		L	LE				1	22	19S	38E	674392	3613938*		1025	130	130	0
L 07359		L	LE	1	1	1	15	19S	38E	674059	3615850*		1051	117	57	60	
L 11587		L	LE	2	4	1	22	19S	38E	674692	3613842*		1106	136			
L 13737 POD1		L	LE	3	3	3	14	19S	38E	675648	3614473		1156	153			
L 04978		L	LE		2	2	16	19S	38E	673757	3615744*		1156	102	46	56	
L 02746		L	LE			2	22	19S	38E	675197	3613951*		1162	110	60	50	
L 03658		L	LE		1	3	14	19S	38E	675782	3614972*		1190	120	50	70	
L 11060		L	LE		1	3	14	19S	38E	675782	3614972*		1190	158			
L 11300		L	LE	4	3	1	14	19S	38E	675875	3615274*		1325	138			
L 10011		L	LE		1	1	14	19S	38E	675769	3615778*		1443	140	60	80	
L 10544		L	LE		1	1	14	19S	38E	675769	3615778*		1443	120	54	66	
L 03424		L	LE		1	2	21	19S	38E	673380	3614126*		1461	102	45	57	
L 02640		L	LE		1	3	10	19S	38E	674147	3616556*		1672	95	50	45	

Average Depth to Water: **53 feet**

Minimum Depth: **15 feet**

Maximum Depth: **130 feet**

Record Count: 75

UTMNAD83 Radius Search (in meters):

Easting (X): 674591.46

Northing (Y): 3614943.63

Radius: 1700

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 30, 2019

ZACH CONDER

TASMAN GEOSCIENCES

6899 PECOS ST. UNIT C

DENVER, CO 80221

RE: HOBBS TO WASSON 6'

Enclosed are the results of analyses for samples received by the laboratory on 07/19/19 16:05.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/ga/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Total Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Cardinal Laboratories is accredited through the State of New Mexico Environment Department for:

Method SM 9223-B	Total Coliform and E. coli (Colilert MMO-MUG)
Method EPA 524.2	Regulated VOCs and Total Trihalomethanes (TTHM)
Method EPA 552.2	Total Haloacetic Acids (HAA-5)

Accreditation applies to public drinking water matrices for State of Colorado and New Mexico.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Celey D. Keene

Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
V - 1 @ 5'	H902497-01	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 1 @ 5.5'	H902497-02	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ S	H902497-07	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 1'	H902497-08	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 3'	H902497-09	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 4'	H902497-10	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 5'	H902497-11	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 7'	H902497-12	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 8'	H902497-13	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 9'	H902497-14	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 10'	H902497-15	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 2 @ 11'	H902497-16	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 3 @ S	H902497-17	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 3 @ 1'	H902497-18	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 3 @ 2'	H902497-19	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 4 @ S	H902497-22	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 4 @ 1'	H902497-23	Soil	11-Jul-19 00:00	19-Jul-19 16:05
V - 4 @ 2'	H902497-24	Soil	11-Jul-19 00:00	19-Jul-19 16:05

07/25/19 Client added chloride to sample -13.
07/26/19 This is the revised report and will replace the one sent on 07/25/19.
07/26/19 Client added chloride to sample -14.
07/30/19 Client added chloride to sample -15 & 16.
07/30/19 This is the 2nd revision of the report and will replace the one sent on 07/25/19.

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 1 @ 5' H902497-01 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	9072214	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.200		0.200	mg/kg	200	9072208	ms	23-Jul-19	8021B	QR-03
Toluene*	1.08		0.200	mg/kg	200	9072208	ms	23-Jul-19	8021B	QM-07, QR-03
Ethylbenzene*	4.89		0.200	mg/kg	200	9072208	ms	23-Jul-19	8021B	QM-07
Total Xylenes*	5.58		0.600	mg/kg	200	9072208	ms	23-Jul-19	8021B	QM-07, QR-03
Total BTEX	11.6		1.20	mg/kg	200	9072208	ms	23-Jul-19	8021B	
Surrogate: 4-Bromofluorobenzene (PID)			118 %	73.3-129		9072208	ms	23-Jul-19	8021B	

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	81.9		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	1440		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	336		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	
Surrogate: 1-Chlorooctane			107 %	41-142		9072202	MS	23-Jul-19	8015B	
Surrogate: 1-Chlorooctadecane			146 %	37.6-147		9072202	MS	23-Jul-19	8015B	

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 1 @ 5.5'

H902497-02 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	9072214	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072208	ms	23-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 102 % 73.3-129 9072208 ms 23-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane 82.8 % 41-142 9072202 MS 23-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 88.6 % 37.6-147 9072202 MS 23-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 2 @ S H902497-07 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	208		16.0	mg/kg	4	9072214	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	0.063		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Toluene*	0.613		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Ethylbenzene*	2.20		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total Xylenes*	3.67		0.150	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total BTEX	6.54		0.300	mg/kg	50	9072208	ms	23-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		145 %		73.3-129		9072208	ms	23-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	284		100	mg/kg	10	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	29100		100	mg/kg	10	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	7880		100	mg/kg	10	9072202	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane		160 %		41-142		9072202	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane		1140 %		37.6-147		9072202	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 2 @ 1' H902497-08 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	80.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072208	ms	23-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			98.7 %		73.3-129	9072208	ms	23-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<50.0		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	740		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	266		50.0	mg/kg	5	9072202	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane			68.1 %		41-142	9072202	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane			100 %		37.6-147	9072202	MS	23-Jul-19	8015B	
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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 2 @ 3' H902497-09 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	192		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072208	ms	23-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072208	ms	23-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)	101 %		73.3-129			9072208	ms	23-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	12.8		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	12.4		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane	75.9 %		41-142			9072202	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane	84.0 %		37.6-147			9072202	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 2 @ 4' H902497-10 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	352		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072401	MS	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129 9072401 MS 24-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
DRO >C10-C28*	367		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	136		10.0	mg/kg	1	9072202	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane 81.9 % 41-142 9072202 MS 23-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147 9072202 MS 23-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V -2 @ 5' H902497-11 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	464		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072401	MS	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129 9072401 MS 24-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072203	MS	22-Jul-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9072203	MS	22-Jul-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9072203	MS	22-Jul-19	8015B	

Surrogate: 1-Chlorooctane 122 % 41-142 9072203 MS 22-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 128 % 37.6-147 9072203 MS 22-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 2 @ 7' H902497-12 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	704		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072401	MS	24-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072401	MS	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129 9072401 MS 24-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane 103 % 41-142 9072203 MS 23-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 105 % 37.6-147 9072203 MS 23-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:Reported:
30-Jul-19 15:19**V - 2 @ 8'**
H902497-13 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	832		16.0	mg/kg	4	9072602	AC	26-Jul-19	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:Reported:
30-Jul-19 15:19**V - 2 @ 9'**
H902497-14 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	848		16.0	mg/kg	4	9072914	AC	29-Jul-19	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:Reported:
30-Jul-19 15:19**V - 2 @ 10'**
H902497-15 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	608		16.0	mg/kg	4	9072915	AC	30-Jul-19	4500-Cl-B	
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Cardinal Laboratories

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:Reported:
30-Jul-19 15:19**V - 2 @ 11'**
H902497-16 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories**Inorganic Compounds**

Chloride	720		16.0	mg/kg	4	9072915	AC	30-Jul-19	4500-Cl-B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 3 @ S H902497-17 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	<16.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	0.851		0.500	mg/kg	500	9072401	MS	24-Jul-19	8021B	
Toluene*	2.22		0.500	mg/kg	500	9072401	MS	24-Jul-19	8021B	
Ethylbenzene*	4.31		0.500	mg/kg	500	9072401	MS	24-Jul-19	8021B	
Total Xylenes*	7.42		1.50	mg/kg	500	9072401	MS	24-Jul-19	8021B	
Total BTEX	14.8		3.00	mg/kg	500	9072401	MS	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			127 %		73.3-129	9072401	MS	24-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	1010		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	
DRO >C10-C28*	33700		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	7310		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane			290 %		41-142	9072203	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane			1090 %		37.6-147	9072203	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 3 @ 1' H902497-18 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	0.058		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Ethylbenzene*	0.074		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072401	MS	25-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		106 %		73.3-129		9072401	MS	25-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	<50.0		50.0	mg/kg	5	9072203	MS	23-Jul-19	8015B	
DRO >C10-C28*	1780		50.0	mg/kg	5	9072203	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	524		50.0	mg/kg	5	9072203	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane		114 %		41-142		9072203	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane		196 %		37.6-147		9072203	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 3 @ 2' H902497-19 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072401	MS	25-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129 9072401 MS 25-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	
DRO >C10-C28*	41.3		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	
EXT DRO >C28-C36	10.8		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	

Surrogate: 1-Chlorooctane 111 % 41-142 9072203 MS 24-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 120 % 37.6-147 9072203 MS 24-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 4 @ S H902497-22 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	32.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

S-04

Benzene*	<0.050		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Toluene*	0.258		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Ethylbenzene*	3.20		0.050	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total Xylenes*	6.18		0.150	mg/kg	50	9072401	MS	25-Jul-19	8021B	
Total BTEX	9.64		0.300	mg/kg	50	9072401	MS	25-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)		231 %		73.3-129		9072401	MS	25-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

S-06

GRO C6-C10*	854		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	
DRO >C10-C28*	25300		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	5530		100	mg/kg	10	9072203	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane		279 %		41-142		9072203	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane		790 %		37.6-147		9072203	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 4 @ 1' H902497-23 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Ethylbenzene*	0.083		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072305	ms	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID) 107 % 73.3-129 9072305 ms 24-Jul-19 8021B

Petroleum Hydrocarbons by GC FID

S-04

GRO C6-C10*	15.0		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	
DRO >C10-C28*	2500		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	
EXT DRO >C28-C36	639		10.0	mg/kg	1	9072203	MS	24-Jul-19	8015B	

Surrogate: 1-Chlorooctane 108 % 41-142 9072203 MS 24-Jul-19 8015B

Surrogate: 1-Chlorooctadecane 182 % 37.6-147 9072203 MS 24-Jul-19 8015B

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

V - 4 @ 2'

H902497-24 (Soil)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Analyst	Analyzed	Method	Notes
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Cardinal Laboratories

Inorganic Compounds

Chloride	16.0		16.0	mg/kg	4	9072216	AC	22-Jul-19	4500-Cl-B	
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Volatile Organic Compounds by EPA Method 8021

Benzene*	<0.050		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Toluene*	<0.050		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Ethylbenzene*	<0.050		0.050	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Total Xylenes*	<0.150		0.150	mg/kg	50	9072305	ms	24-Jul-19	8021B	
Total BTEX	<0.300		0.300	mg/kg	50	9072305	ms	24-Jul-19	8021B	

Surrogate: 4-Bromofluorobenzene (PID)			102 %	73.3-129		9072305	ms	24-Jul-19	8021B	
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Petroleum Hydrocarbons by GC FID

GRO C6-C10*	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	
DRO >C10-C28*	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	
EXT DRO >C28-C36	<10.0		10.0	mg/kg	1	9072203	MS	23-Jul-19	8015B	

Surrogate: 1-Chlorooctane			107 %	41-142		9072203	MS	23-Jul-19	8015B	
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Surrogate: 1-Chlorooctadecane			111 %	37.6-147		9072203	MS	23-Jul-19	8015B	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072214 - 1:4 DI Water

Blank (9072214-BLK1)

Prepared & Analyzed: 22-Jul-19

Chloride ND 16.0 mg/kg

LCS (9072214-BS1)

Prepared & Analyzed: 22-Jul-19

Chloride 432 16.0 mg/kg 400 108 80-120

LCS Dup (9072214-BSD1)

Prepared & Analyzed: 22-Jul-19

Chloride 416 16.0 mg/kg 400 104 80-120 3.77 20

Batch 9072216 - 1:4 DI Water

Blank (9072216-BLK1)

Prepared & Analyzed: 22-Jul-19

Chloride ND 16.0 mg/kg

LCS (9072216-BS1)

Prepared & Analyzed: 22-Jul-19

Chloride 416 16.0 mg/kg 400 104 80-120

LCS Dup (9072216-BSD1)

Prepared & Analyzed: 22-Jul-19

Chloride 432 16.0 mg/kg 400 108 80-120 3.77 20

Batch 9072602 - 1:4 DI Water

Blank (9072602-BLK1)

Prepared & Analyzed: 26-Jul-19

Chloride ND 16.0 mg/kg

LCS (9072602-BS1)

Prepared & Analyzed: 26-Jul-19

Chloride 416 16.0 mg/kg 400 104 80-120

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Inorganic Compounds - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072602 - 1:4 DI Water

LCS Dup (9072602-BSD1)

Prepared & Analyzed: 26-Jul-19

Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	
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Batch 9072914 - 1:4 DI Water

Blank (9072914-BLK1)

Prepared & Analyzed: 29-Jul-19

Chloride	ND	16.0	mg/kg							
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LCS (9072914-BS1)

Prepared & Analyzed: 29-Jul-19

Chloride	432	16.0	mg/kg	400		108	80-120			
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LCS Dup (9072914-BSD1)

Prepared & Analyzed: 29-Jul-19

Chloride	416	16.0	mg/kg	400		104	80-120	3.77	20	
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Batch 9072915 - 1:4 DI Water

Blank (9072915-BLK1)

Prepared & Analyzed: 29-Jul-19

Chloride	ND	16.0	mg/kg							
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LCS (9072915-BS1)

Prepared & Analyzed: 29-Jul-19

Chloride	416	16.0	mg/kg	400		104	80-120			
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LCS Dup (9072915-BSD1)

Prepared & Analyzed: 29-Jul-19

Chloride	416	16.0	mg/kg	400		104	80-120	0.00	20	
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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072208 - Volatiles

Blank (9072208-BLK1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.102		mg/kg	0.100		102	73.3-129			

LCS (9072208-BS1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

Benzene	2.10	0.050	mg/kg	2.00		105	72.2-131			
Toluene	2.18	0.050	mg/kg	2.00		109	71.7-126			
Ethylbenzene	2.04	0.050	mg/kg	2.00		102	68.9-126			
Total Xylenes	6.20	0.150	mg/kg	6.00		103	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.100		mg/kg	0.100		100	73.3-129			

LCS Dup (9072208-BSD1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

Benzene	2.06	0.050	mg/kg	2.00		103	72.2-131	1.96	6.91	
Toluene	2.11	0.050	mg/kg	2.00		106	71.7-126	3.34	7.12	
Ethylbenzene	1.99	0.050	mg/kg	2.00		99.5	68.9-126	2.70	7.88	
Total Xylenes	6.01	0.150	mg/kg	6.00		100	71.4-125	3.03	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.0996		mg/kg	0.100		99.6	73.3-129			

Batch 9072305 - Volatiles

Blank (9072305-BLK1)

Prepared: 23-Jul-19 Analyzed: 24-Jul-19

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.106		mg/kg	0.100		106	73.3-129			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Volatile Organic Compounds by EPA Method 8021 - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072305 - Volatiles

LCS (9072305-BS1)

Prepared: 23-Jul-19 Analyzed: 24-Jul-19

Benzene	1.74	0.050	mg/kg	2.00		87.0	72.2-131			
Toluene	1.77	0.050	mg/kg	2.00		88.6	71.7-126			
Ethylbenzene	1.69	0.050	mg/kg	2.00		84.3	68.9-126			
Total Xylenes	5.08	0.150	mg/kg	6.00		84.7	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.105		mg/kg	0.100		105	73.3-129			

LCS Dup (9072305-BS1)

Prepared: 23-Jul-19 Analyzed: 24-Jul-19

Benzene	1.70	0.050	mg/kg	2.00		85.1	72.2-131	2.24	6.91	
Toluene	1.73	0.050	mg/kg	2.00		86.6	71.7-126	2.18	7.12	
Ethylbenzene	1.65	0.050	mg/kg	2.00		82.5	68.9-126	2.24	7.88	
Total Xylenes	4.95	0.150	mg/kg	6.00		82.5	71.4-125	2.60	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.104		mg/kg	0.100		104	73.3-129			

Batch 9072401 - Volatiles

Blank (9072401-BLK1)

Prepared & Analyzed: 24-Jul-19

Benzene	ND	0.050	mg/kg							
Toluene	ND	0.050	mg/kg							
Ethylbenzene	ND	0.050	mg/kg							
Total Xylenes	ND	0.150	mg/kg							
Total BTEX	ND	0.300	mg/kg							
Surrogate: 4-Bromofluorobenzene (PID)	0.104		mg/kg	0.100		104	73.3-129			

LCS (9072401-BS1)

Prepared & Analyzed: 24-Jul-19

Benzene	2.00	0.050	mg/kg	2.00		100	72.2-131			
Toluene	2.06	0.050	mg/kg	2.00		103	71.7-126			
Ethylbenzene	1.94	0.050	mg/kg	2.00		96.8	68.9-126			
Total Xylenes	6.18	0.150	mg/kg	6.00		103	71.4-125			
Surrogate: 4-Bromofluorobenzene (PID)	0.0966		mg/kg	0.100		96.6	73.3-129			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

 TASMAN GEOSCIENCES
 6899 PECOS ST. UNIT C
 DENVER CO, 80221

 Project: HOBBS TO WASSON 6'
 Project Number: NONE GIVEN
 Project Manager: ZACH CONDER
 Fax To:

 Reported:
 30-Jul-19 15:19

Volatile Organic Compounds by EPA Method 8021 - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072401 - Volatiles
LCS Dup (9072401-BSD1)

Prepared & Analyzed: 24-Jul-19

Benzene	1.98	0.050	mg/kg	2.00		98.8	72.2-131	1.33	6.91	
Toluene	2.03	0.050	mg/kg	2.00		102	71.7-126	1.17	7.12	
Ethylbenzene	1.91	0.050	mg/kg	2.00		95.3	68.9-126	1.58	7.88	
Total Xylenes	6.05	0.150	mg/kg	6.00		101	71.4-125	2.04	7.46	
Surrogate: 4-Bromofluorobenzene (PID)	0.0992		mg/kg	0.100		99.2	73.3-129			

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Petroleum Hydrocarbons by GC FID - Quality Control

Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Notes
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Batch 9072202 - General Prep - Organics

Blank (9072202-BLK1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	41.9		mg/kg	50.0		83.9	41-142		
Surrogate: 1-Chlorooctadecane	46.1		mg/kg	50.0		92.1	37.6-147		

LCS (9072202-BS1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

GRO C6-C10	199	10.0	mg/kg	200		99.6	76.5-133		
DRO >C10-C28	194	10.0	mg/kg	200		96.8	72.9-138		
Total TPH C6-C28	393	10.0	mg/kg	400		98.2	78-132		
Surrogate: 1-Chlorooctane	45.3		mg/kg	50.0		90.5	41-142		
Surrogate: 1-Chlorooctadecane	45.6		mg/kg	50.0		91.2	37.6-147		

LCS Dup (9072202-BS1)

Prepared: 22-Jul-19 Analyzed: 23-Jul-19

GRO C6-C10	201	10.0	mg/kg	200		101	76.5-133	1.14	20.6
DRO >C10-C28	196	10.0	mg/kg	200		98.0	72.9-138	1.23	20.6
Total TPH C6-C28	397	10.0	mg/kg	400		99.3	78-132	1.18	18
Surrogate: 1-Chlorooctane	45.4		mg/kg	50.0		90.7	41-142		
Surrogate: 1-Chlorooctadecane	45.4		mg/kg	50.0		90.7	37.6-147		

Batch 9072203 - General Prep - Organics

Blank (9072203-BLK1)

Prepared & Analyzed: 22-Jul-19

GRO C6-C10	ND	10.0	mg/kg						
DRO >C10-C28	ND	10.0	mg/kg						
EXT DRO >C28-C36	ND	10.0	mg/kg						
Surrogate: 1-Chlorooctane	58.4		mg/kg	50.0		117	41-142		
Surrogate: 1-Chlorooctadecane	60.7		mg/kg	50.0		121	37.6-147		

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Celey D. Keene, Lab Director/Quality Manager

Analytical Results For:

TASMAN GEOSCIENCES
6899 PECOS ST. UNIT C
DENVER CO, 80221

Project: HOBBS TO WASSON 6'
Project Number: NONE GIVEN
Project Manager: ZACH CONDER
Fax To:

Reported:
30-Jul-19 15:19

Petroleum Hydrocarbons by GC FID - Quality Control
Cardinal Laboratories

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	--------------------	-------	----------------	------------------	------	----------------	-----	--------------	-------

Batch 9072203 - General Prep - Organics
LCS (9072203-BS1)

Prepared & Analyzed: 22-Jul-19

GRO C6-C10	203	10.0	mg/kg	200		102	76.5-133			
DRO >C10-C28	193	10.0	mg/kg	200		96.5	72.9-138			
Total TPH C6-C28	396	10.0	mg/kg	400		99.0	78-132			
Surrogate: 1-Chlorooctane	56.7		mg/kg	50.0		113	41-142			
Surrogate: 1-Chlorooctadecane	55.8		mg/kg	50.0		112	37.6-147			

LCS Dup (9072203-BS1)

Prepared & Analyzed: 22-Jul-19

GRO C6-C10	204	10.0	mg/kg	200		102	76.5-133	0.529	20.6	
DRO >C10-C28	191	10.0	mg/kg	200		95.4	72.9-138	1.14	20.6	
Total TPH C6-C28	395	10.0	mg/kg	400		98.8	78-132	0.279	18	
Surrogate: 1-Chlorooctane	57.4		mg/kg	50.0		115	41-142			
Surrogate: 1-Chlorooctadecane	58.0		mg/kg	50.0		116	37.6-147			

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

Notes and Definitions

S-06	The recovery of this surrogate is outside control limits due to sample dilution required from high analyte concentration and/or matrix interference's.
S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager

ORDINAL LABORATORIES

101 East Marland, Hobbs, NM 88240 2111 Beechwood, Abilene, TX 79603
(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

1 of 4

(505) 393-2326 FAX (505) 393-2476 (505) 613-7001 FAX (505) 613-7020
BILL TO ANALYSIS REQUEST

Company Name: Tasman Geosciences, LLC		P.O. #:																						
Project Manager: Zach Conder		Company: Tasman Geo																						
Address: 2620 W Marland Blvd		Attn: Z Conder																						
City: Hobbs		Address: 2620 W. Marland																						
State: NM Zip: 88240		City: Hobbs																						
Phone #: 806-724-5943 Fax #:		State: NM Zip: 88240																						
Project #:		Project Owner:																						
Project Name: Hobbs to Wasson 6'		Phone #:																						
Project Location: Lea County New Mexico		Fax #:																						
Sample Name: B Griffin																								
FOR LAB USE ONLY		MATRIX	PRESERV	SAMPLING																				
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	TPH 8015 M Ext	Chloride 300 4500	BTEX 8021B	RCI	TCLP RCRA8	NORM	Paint Filter	TCLP Benzene	Hold	
H902497	V-1 @ 5'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
	V-1 @ 5.5'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
	V-1 @ 8'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
	V-1 @ 10'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
	V-1 @ 11'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
	V-12 12'	✓	1	✓		✓				✓			7/11/19		✓	✓	✓							
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Delivered By: (Circle One)		-6.9°C	H97	Cool Intact		Yes Yes No No	Y.E.																	
Sampler - UPS - Bus - Other:		Consulated -6.5°C				No No																		

* Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476



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(505) 393-2326 FAX (505) 393-2476 (325) 673-7001 FAX (325) 673-7020

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

2 of 4

Company Name: Tasman Geosciences, LLC

Project Manager: Zach Conder

Address: 2620 W Marland Blvd

City: Hobbs

Phone #: 806-724-5943

Project #:

Project Name: Hobbs to Wasson 6'

Project Location: Lea County New Mexico

Sampler Name: B Griffin

FOR LAB USE ONLY

P.O. #:

Company: Tasman Geo

Attn: Z Conder

Address: 2620 W. Marland

City: Hobbs

State: NM Zip: 88240

Phone #:

Fax #:

ANALYSIS REQUEST

TPH 8015 M Ext
Chloride ~~300~~ 4500
BTEX 8021B
RCI
TCLP RCRA8
NORM
Paint Filter
TCLP Benzene
Hold

Lab I.D. Sample I.D.

Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	ANALYSIS REQUEST
AK02497	V-2 @ S	✓	1	✓		✓					✓		7/11/19		✓
7	V-2 @ 1'	✓	1	✓		✓					✓		7/11/19		✓
8	V-2 @ 3'	✓	1	✓		✓					✓		7/11/19		✓
9	V-2 @ 4'	✓	1	✓		✓					✓		7/11/19		✓
10	V-2 @ 5'	✓	1	✓		✓					✓		7/11/19		✓
11	V-2 @ 7'	✓	1	✓		✓					✓		7/11/19		✓
12	V-2 @ 8'	✓	1	✓		✓					✓		7/11/19		✓
13	V-2 @ 9'	✓	1	✓		✓					✓		7/11/19		✓
14	V-2 @ 10'	✓	1	✓		✓					✓		7/11/19		✓
15	V-2 @ 11'	✓	1	✓		✓					✓		7/11/19		✓

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Relinquished By:

Date: 7-19-19

Received By:

Relinquished By:

Date: 7-16-19

Received By:

Delivered By: (Circle One)

Sampler - UPS - Bus - Other:

Sample Condition
Cool Intact
☒ Yes ☐ No

CHECKED BY: (Initials)

Phone Result: ☐ Yes ☒ No Add'l Phone #:
Fax Result: ☐ Yes ☒ No Add'l Fax #:

REMARKS:
Anything above 100 ppm TPH 10 Benzen STOP
email results to: zconder@tasman-geo.com,
bdennis@tasman-geo.com, bgriffin@tasman-geo.com,
algroves@laalp.com

+ Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476

Plains Hobbs to Wasson 6"



Plains Hobbs to Wasson 6"



Plains Hobbs to Wasson 6"



District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural
Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NDHR1921034782
District RP	1RP-5617
Facility ID	fDHR1921033990
Application ID	pDHR1921033352

Release Notification

Responsible Party

Responsible Party Plains Pipeline, L.P.	OGRID 713291
Contact Name Amber Groves	Contact Telephone 575-200-5517
Contact email algroves@paalp.com	Incident # (assigned by OCD)
Contact mailing address 1911 Connie Road, Carlsbad NM 88220	

Location of Release Source

Latitude 32.65850

Longitude -103.13840

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Hobbs to Wasson 6"	Site Type Pipeline
Date Release Discovered 7/3/2019	API# (if applicable)

Unit Letter	Section	Township	Range	County
K	15	19S	38E	Lea

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☒ Private (Name: Dave Lenard)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 10 bbls	Volume Recovered (bbls) 0 bbls
<input type="checkbox"/> Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Crude oil release as a result of an open ended pipe during purging activities.

Incident ID	NDHR1921034782
District RP	1RP-5617
Facility ID	fDHR1921033990
Application ID	pDHR1921033352

Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why:	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Amber Groves</u>	Title: <u>Remediation Coordinator</u>
Signature: <u>Amber Groves</u>	Date: <u>7/16/2019</u>
email: <u>algroves@paalp.com</u>	Telephone: <u>575-200-5517</u>
<u>OCD Only</u>	
Received by: <u>Dylan Rose-Coss</u>	Date: <u>07/16/2019</u>

Amber L Groves

From: Dray L Boiles
Sent: Monday, July 8, 2019 4:44 PM
To: Amber L Groves
Subject: Spill Calculation for New Hobbs

Length	Width	Depth		Volume Barrels
124	22	.24	0.0154	10.082688

Dray Boiles

Maintenance Supervisor

Plains Pipeline L.P.

[577 US HWY 385 N](#)

[Seminole, TX 79360](#)

Office: [\(432\)758-8139](#)

Fax: [\(432\)758-8150](#)

Cellular: [\(806\)215-1990](#)

Email: dlboiles@paalp.com